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EXAMINER

TRUONG, CAMQUY

ART UNIT	PAPER NUMBER
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2195

DATE MAILED: 08/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/002,073

Applicant(s)

SHAFFER, LARRY J.

Examiner

Camquy Truong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

1. Claims 1-29 are presented for examination.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 22-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. The following claim language is indefinite:

i. As per claim 22, lines 9-10, and lines 11-12, it is not clearly understood "a task is allocated to a selected one of said first and second computer platforms (i.e. using Or instead of And); Line 11, it is not clearly indicated whether "a task" refers to "a task" in line 9.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1-12, 14, 22- 27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu (U.S. Patent 6,104,721) in view of Swan et al. (U.S. Patent 5,925,092).

6. Hsu was cited in the last office action.

7. As to claim 1, Hsu teaches the invention substantially as claimed including a method for dynamically allocating tasks in a computer system (col. 1, lines 10-12) comprising:

Assigning a computer resource requirement to a task (col. 2, lines 48-51; col. 3, lines 43-45; col.5, lines 57-59; col.6, lines 3-5 and lines 14-18);

Assigning said task to a selected one of said plurality of computer platforms (col. 3, lines 20-22, lines 32-35 and lines 45-52; col.6, 30-32; col. 10, lines 11-14; col. 13, lines 37-42), wherein said task is assigned to said selected computer platform based on said resource requirement of said task and said maximum resource load of said selected platform (col. 5, line 57- col. 6, line 26); and

Performing said task in connection with said selected computer platform (col.6, lines 26-32; col. 13, lines 43-46).

8. Hsu does not explicitly teach that Assigning a maximum computer resource load to each of a plurality of computer platforms, wherein a first of said computer platforms has a first maximum computer platform load and a second of said computer resource

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has a second maximum resource load. However, Swan teaches assigning a maximum computer resource load to each of a plurality of computer platforms, wherein a first of said computer platforms has a first maximum computer platform load and a second of said computer resource has a second maximum resource load (col. 12, lines 21-40).

9. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Hsu and Swan because Swan's assigning a maximum computer resource load to each of a plurality of computer platforms, wherein a first of said computer platforms has a first maximum computer platform load and a second of said computer resource has a second maximum resource load would allow tasks to be allocated to corresponding processor based on the capability of processors to enable managed more cost effectively.

10. As to claim 2, Hsu teaches first computer platform load is not equal said second computer resource load (col. 3, lines 5-8 and lines 17-20; col. 9, lines 60-62; col.10, line 54-col.11, line 7; col. 10, lines 24-27).

11. As to claim 3, Hsu teach assigning a computer resource requirement comprises assigning a point value to said task (col. 2, lines 48-51; col. 3, lines 43-45; col.5, lines 57-59; col.6, lines 3-5 and lines 14-18).

12. As to claim 4, Hsu teach providing a computer resources table, wherein

indications of maximum computer resource loads for each of said plurality of computer platforms is maintained in said table (col.9, lines 60-62; col. 10, lines 24-27).

13. As to claim 5, Hsu teaches each of said plurality of computer resources reports a maximum computer resource load amount to said table prior to said step of assigning a task (col. 10, lines 32-35).

14. As to claim 6, Hsu teaches a task is not assigned to a computer platform if doing so would cause said indication of a computer resource load amount of said computer platform to exceed a maximum computer resource load associated with said computer platform (col. 10, lines 42-43; col. 13, lines 6-12).

15. As to claim 7, Hsu teaches first computer platform is assigned said task, wherein a maximum computer resource amount associated with said computer platform is exceeded, and wherein said first computer resource rejects said assigned task (col. 9, lines 54-56; col. 10, lines 42-43; col. 13, lines 6-12).

16. As to claim 8, Hsu teaches task is assigned to said second computer platform after said rejection of said task by said first computer platform (col. 10, lines 42-47; col. 13, lines 17-22).

17. As to claim 9, Hsu teaches classifying said task by type (col. 3, lines 35-36).

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18. As to claim 10, Hsu teaches providing a computer resources table, wherein an indication of a computing resource load and of a task capability for each of said plurality of computer platforms is maintained in said table (Fig.3; Fig. 4; col. 3, lines 17-37; col. 9, lines 31-46).

19. As to claim 11, Hsu teaches task is assigned to a computer platform listed in said computer resources table according to said computing load and said task capability (col. 3, lines 17-37).

20. As to claim 12, Hsu teaches wherein said computer platforms comprise at least one of a processor, an input/output port, an area of memory, and an allocation of bandwidth (col. 7, lines 8-12).

21. As to claim 14, Hsu teaches altering at least one of said plurality of computer platforms, wherein said step of altering comprises at least one of adding, removing, and modifying said at least one computer resource associated with said computer platform (col. 3, lines 27-29; col. 6, lines 26-29 and col. 10, lines 25-30).

22. As to claim 22, it is rejected for the same reason as claim 1. In addition, Hsu teaches at least a first computer platform comprising at least a first computer resource and a second computer platform comprising at least a second computer resource (col. 2, lines 20-27; col. 3, lines 17-19), wherein said at least a first computer platform has a

first task type capability and a first resource amount capability, wherein said second computer platform has a second task type capability and a second resource amount capability, wherein said first and second task type capabilities do not have to be the same, and wherein said first and second resource amount capabilities do not have to be the same (col. 2, lines 20-27; col. 3, lines 20-27);

Processing software running on a server processor, comprising: a software task allocation unit (col. 3, lines 38-40; col. 9, lines 20-22), wherein a task is allocated to a selected one of said first and second computer platforms based on said task type capability and said resource amount capability (col.6, line 12-32; col. 9, lines 42-56; col. 10, lines 11-16), and wherein a task is completed in connection with said selected one of said first and second computer platforms having a task type capability required to complete said task and a resource amount capability sufficient to complete said task (col. 3, lines 40-46; col. 10, lines 36-41).

23. As to claim 23, Hsu teaches software task allocation unit further comprises: a software table, wherein an entry for said at least a first computer platform is maintained in said table, and wherein for each such entry a task type capability and a task resource amount are specified (col. 3, lines 17-37; col. 9, lines 31-37).

24. As to claims 24-26, Hsu teaches task resource amount is dynamically altered in response to a change in a resource amount capability of said at least a

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first computer platform (col. 10, lines 30-36).

25. As to claim 27, Hsu teaches altered performance characteristic comprises at least one of a frequency of operation, an operating voltage, and a rate of instructions (col. 15, lines 11-18).

26. As to claim 29, it is rejected for the same reason as claim 12.

27. Claims 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu (U.S. Patent 6,104,721) in view of Lea et al. (U.S. Patent 6,314,447 B1).

28. Hsu was cited in the last office action.

29. As to claims 15 and 16, it is rejected for the same reason as claim 1. In addition, Hsu teaches:

Dynamically specifying a first capability of a first computer processor (col. 2, lines 40-42; col. 3, lines 7-8 and lines 17-19; col. 14, lines 33-49);

Dynamically specifying a first capability of a second computer processor (col. 2, lines 40-42; col. 3, lines 7-8 and lines 17-19; col. 14, lines 33-49);

Receiving a first task requiring processing, wherein a first processor load value is associated with said first task (col. 6, lines 12-18; col. 12, line 65-col. 13, line 5);

Assigning said first task to said first computer processor (col. 3, lines 20-22, lines 32-35 and lines 45-52; col.6, 30-32; col. 10, lines 11-14; col. 13, lines 37-42), wherein said first processor load value is less than said first capability of said first computer processor (col. 6, lines 13-29); and

Processing said first task using said first computer processor (col.6, lines 26-32; col. 13, lines 43-46).

30. Hsu does not explicitly teach determining that said first processor load value of said first task is greater than said first capability of said second computer processor. However, Lea et al teach determining that said first processor load value of said first task is greater than said first capability of said second computer processor (col. 3, lines 5-19 and lines 32-39; col. 12, lines 7-34 and lines 60-67).

31. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combine the teaching of Hsu and Lea because Lea's determining that said first processor load value of said first task is greater than said first capability of said second computer processor would increase throughput of Hsu's system by providing the step of determining that said first processor load value of said first task is greater than said first capability of said second computer processor to provide an efficient method for utilizing processing capabilities of electronic devices in a distributed electronic network.

32. As to claims 17-18, a computer processor capability table, wherein a dynamically adjusted first capability value for said first computer processor is stored (col. 3, lines 27-29; col. 6, lines 26-29 and col. 10, lines 25-30; col. 14, lines 33-49).

33. As to claim 19, Hsu teaches specifying a task capability associated with said first computer processor and with a second computer processor, wherein a task of a first task type is assigned to a computer processor having a task capability including said first task type, and wherein a task of a first type is not assigned to a computer resource having a task capability that does not include a task of said first type (col. 9, lines 48-56).

34. As to claim 20, Hsu teaches altering a performance characteristic of said first processor, wherein said step of dynamically specifying comprises respecifying a first capability of said first processor (col. 10, lines 30-31).

35. As to claim 21, Hsu teaches altered performance characteristic comprises at least one of a frequency of operation, an operating voltage, and a rate of instructions (col. 15, lines 11-18).

36. Claims 13 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu (U.S. Patent 6,104,721) and Swan et al (U.S. Patent 5,925,092), as applied to

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claims 1 and claim 22 above, and further in view of Borkar et al (U.S. Patent 6,484,265 B2).

37. Borkar et al was cited in the last office action.

38. As to claims 13 and 28, Hsu teaches:

Altering a clock rate of a computer resource associated with a computer platform included in said carrier (col.15, lines 11-16).

Hsu and Swan do not explicitly teach:

Sensing a temperature of a carrier associated with at least one of said computer platforms and altering a maximum load value of said computer platform, wherein a maximum load value of said computer platform is increased if said clock rate is increased, and wherein a maximum load value of said computer platform is decreased if said clock rate is decreased.

39. However Borkar teaches sensing a temperature of a carrier associated with at least one of said computer platforms (col. 1, lines 15-18).

Altering a maximum load value of said computer platform, wherein a maximum load value of said computer platform is increased if said clock rate is increased, and wherein a maximum load value of said computer platform is decreased if said clock rate is decreased (col. 6, lines 16-39).

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40. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Hsu, Swan et al, and Borkar because Borkar's Sensing a temperature of a carrier associated with at least one of said computer platforms and altering a maximum load value of said computer platform, wherein a maximum load value of said computer platform is increased if said clock rate is increased, and wherein a maximum load value of said computer platform is decreased if said clock rate is decreased would provide flexibility in order to extend the hardware lifetime of the circuit while meeting the challenges of increasing processing power requirements of new data services..

Response to the argument

41. Applicant's arguments filed 05/24/2005 for claims 1-29 have been considered but are moot in view of the new ground(s) rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory

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period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion


42. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Camquy Truong whose telephone number is (571) 272-3773. The examiner can normally be reached on 8AM – 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3756.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIP. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIP system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

Camquy Truong

August 1, 2005


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